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AN EXAMINATION OF ASPECTS RELATED TO THE ACQUISITION OF PRIVATE POWER INTERESTS IN THE YUKON AND NORTHWEST TERRITORIES

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March, 1968.

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1 INTRODUCTION

In the context of a development policy for the north, the sound development of the northern infrastructure is of paramount importance. Power is a fundamental component of the infrastructure.

Installed generating capacity in the Yukon and the Northwest Territories is 95,000 kw. (1) Two-thirds of this generating capacity is in the Northwest Territories and one-third in the Yukon. The total installed generating capacity is divisible into three major controlling classes:

	Percentage of Installed Generating Capacity (2)
Government operated (primarily by the Northern Canada Power Commission)	75%
Private control (primarily by mining companies)	15%
Private control by utility companies	10%
Total:	100%

Electric utilities in Canada are publicly owned except in Alberta which has private utilities, and in Nova Scotia where both public and private utilities operate.

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(1) "Electric Power in Canada - 1965", the Queen's Printer, Ottawa.
(2) Estimate, to illustrate the orders of magnitude.

In the search for a sound energy policy for the north, the question arises whether it is in the best interests of the north to have a private electric utility sector. This question is raised with reference to the 10 per cent of installed generating capacity which is controlled by the Yukon Electric Co. Ltd. and Yukon Hydro (owning generating plants and distribution systems in the Yukon), and Northland Utilities Ltd. and Plains Western Gas and Electric Ltd. (owning generating plants and distribution systems in the Northwest Territories).

The purpose of this study is to bring together background material which would assist in the process of examining northern energy policy.

2 DEFINITIONS

Block Charges	-	those rates assessed against the consumption of specified amounts of electricity.
Distribution	-	the allocation of energy to the ultimate consumer from a substation on a transmission line.
Distribution System or Transmission System	-	the transformers, leads, poles, towers, rights-of-way and other such incidental facilities necessary for the distribution of energy.
Energy	-	for the purpose of this report, means electrical energy, however produced.
Generation	-	the production, at site, of energy.
Generation System	-	the actual plant installed, the sole function of which is to generate electricity.
Hydro-electric Power	-	energy produced as a result of the conversion of the kinetic energy of falling water.
Thermal-electric Power	-	energy produced from the burning of fossil fuels, e.g., wood, oil, coal.
Transmission	-	the movement of energy from the point of generation to the point of distribution, normally a substation.

3 THE PROPERTIES IN QUESTION

The private electric utility companies in the Yukon are the Yukon Electric Co. Ltd. and its generating arm, Yukon Hydro Co. Ltd. The private electric utility companies in the Northwest Territories are Plains Western Gas and Electric Ltd. and Northland Utilities. This section examines the holdings and corporate structure of these companies.

3.1 Physical Plant

Yukon Electric operates ten generating and distribution facilities and three additional distribution facilities. The total value of these fixed assets in the hands of private electric utility companies in the Yukon is estimated to be $2,920,000. (See Appendix A for details).

Northland Utilities operates three generating and distribution facilities and Plains Western Gas and Electric Ltd. operates one distribution facility. The total value of these fixed assets in the hands of private electric utility companies in the Northwest Territories is estimated to be $1,300,000. (See Appendix A for details).

The combined estimated value of these fixed assets in the Yukon and the Northwest Territories is $4,220,000.

Plains Western Gas and Electric Ltd. distributes power in Yellowknife but not on franchise. The major part of the northern operations of these utilities is, however, based on distribution franchises. The details on these franchises are presented in Table 3-1.

TABLE 3-1

PRIVATE ELECTRIC UTILITY FRANCHISES IN THE NORTH

Location	Operation	Franchise Termination Date
Yukon Electric (in the Yukon)		
Whitehorse	generation, transmission, distribution	26-8-1974
Watson Lake	"	8-1-1980
Carmacks	"	12-4-1981
Haines Junction	"	12-8-1978
Teslin	"	21-4-1984
Carcross	only distribution	20-8-1980
Northland Utilities (In the Northwest Territories)		
Fort Providence	generation, transmission, distribution	1-12-1974
Enterprise	"	23-5-1973

The value of the franchises (assessed in terms of potential foregone earnings to expiry date of franchise) is assessed tentatively at $480,000 for Yukon Electric and $250,000 for Northland Utilities. Total value of the franchises outstanding is thus estimated at $630,000. The total tentative valuation of fixed assets and franchises is thus $4,950,000. Table 3-2 presents the details.

A listing of the operations which are not on franchise is presented in Table 3-3.

TABLE 3-2

PRELIMINARY VALUATION OF PRIVATE ELECTRIC UTILITIES IN THE NORTH (AS AT END OF 1967)

Company	Fixed Assets	Outstanding Franchise	Total
Yukon Electric	$2,920,000	$480,000	$3,400,000
Northland Utilities	1,300,000	250,000	1,550,000
Total:	$4,220,000	$730,000	$4,950,000

Source: N.C.P.C., see Appendix A.

TABLE 3-3

UNFRANCHISED OPERATIONS OF PRIVATE ELECTRIC UTILITIES IN THE NORTH

Company	Location	Operation
Yukon Electric	Destruction Bay, Y.T.	generation, transmission, distribution
	Beaver Creek, Y.T.	"
	Ross River, Y.T.	"
	Old Crow, Y.T.	"
	Stewart Crossing, Y.T.	"
	Keno, Y.T.	only distribution
	Upper Liard, Y.T.	only distribution
Northland Utilities	Hay River, N.W.T.	generation, transmission, distribution
Plains Western Gas and Electric	Yellowknife, N.W.T.	only distribution

3.2 Corporate Structure

The Yukon Electric Co. Ltd. and its generating arm, Yukon Hydro, have been, since March 31, 1958, wholly-owned subsidiaries of Canadian Utilities Ltd. Canadian Utilities Ltd. operates primarily in Alberta and supplies electricity and/or natural gas to over three hundred communities, oil fields and isolated sites in Alberta, Saskatchewan and the Yukon. As of August 1967, 72.17 per cent of the voting interest of Canadian Utilities Ltd. was held by International Utilities Corp.

Northland Utilities Ltd., together with its two wholly-owned subsidiaries - Northland Utilities (B.C.) Ltd. and Uranium City Power Co. Ltd. - supply electricity and/or natural gas to 79 communities in British Columbia, Alberta, Saskatchewan and the Northwest Territories. International Utilities Corp. acquired control of Northland Utilities Ltd. in January, 1961, and at the present time holds 99.62 per cent of the voting interest. (See the diagram on the next page for a graphical presentation of the corporate structure.)

International Utilities is a multi-national corporation with interests ranging from trucking and bus companies to gas utilities, waterworks and electrical utilities (1). As of February 28, 1968, Toronto-based International Utilities Corp. merged with General Waterworks Corp. of Philadelphia (2). The continuing company will be called International Utilities and will be Toronto based. This, thus is the "new" corporate parent of the northern electric utilities under consideration. The "new" International Utilities has assets of $850 million and, accordingly, becomes one of the world's largest financial and industrial entities. The corporation has 35,000 employees in 24 countries.

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(1) "How giant pair made their vows", Financial Post, Toronto, December 9, 1967.

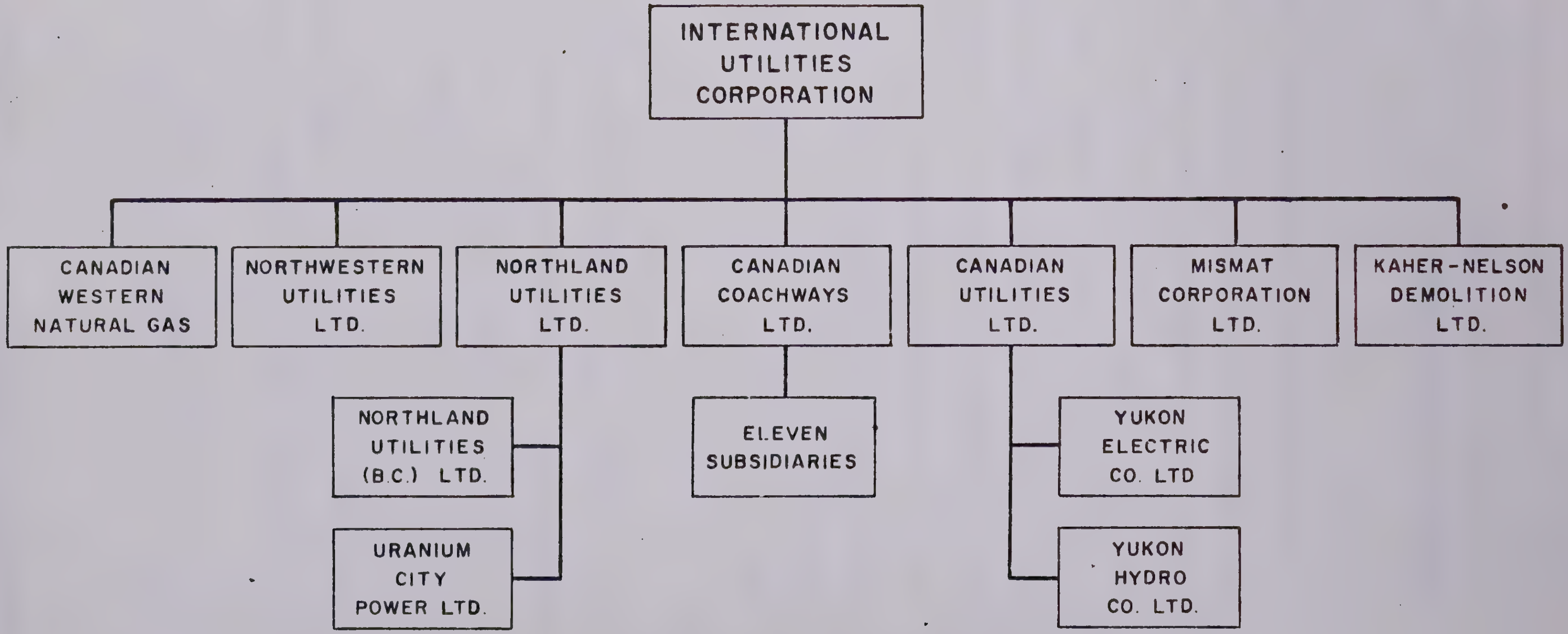
(2) "Shareholders back $850 million merger", Globe and Mail, Toronto, February 28, 1968.

International Utilities initially moved its corporate headquarters to Toronto in 1961, for tax reasons. Prior to the latest merger, Canadian participation in the Company was over 60 per cent of the combined common and preferred stock. The Canadian participation falls to about 40 per cent in the "new" International Utilities after the latest merger.

Further details on the interests of International Utilities in Northern and Western Canada are presented in Appendix B.

INTERNATIONAL UTILITIES CORPORATION

(CANADIAN HOLDINGS)



4 ASPECTS OF NATIONALIZATION

A decision to nationalize an industry is not taken lightly. Such a ion is generally taken when government considers that the benefits of tep outweigh the costs. In this section, the various factors bearing ch a decision are examined. The benefits which are cited are, what e termed, the "classical arguments", which are generally advanced to ify such action. These benefits are stated in their specific "northern xt". The cost problems which are raised are rather specific to this .

ITS

Profits

Private utilities are in the business for the profits which they make. er, there are no northern ordinances regulating the profit margins able. The utilities in question claim that they regulate themselves tending to their northern operations the regulations of the Alberta ic Utilities Act. The N.C.P.C. tends to confirm that, judging by the being charged, the profits being realized by the companies are not itant. A nationalized utility would have recourse to lower cost capital ould operate on a break-even self-financing basis rather than on a profit n. As a consequence, a cash benefit would result which may be passed on e consumer.

lexibility of Operations

A totally nationalized northern electrical system offers a flexibility velopment planning and rate setting, and the problem of having to consult a private entity is removed.

4.3 Sound Long-Term Planning

A public utility is more likely to operate on an optimum long-term strategy basis. For example, a public utility would be more likely to develop hydro resources and install generating facilities on a scale which would best optimize long-term objectives. In contrast, the relatively small energy market in the north, offers little encouragement to a private operator to develop facilities beyond those required to satisfy the immediate demand.

4.4 The Process of Integration

The integration of facilities and development of a grid system is, in most circumstances, best achieved under one dominant body or under strong regulation. The situation in the north, of small and widely scattered communities, does not provide strong support for this argument at the present time. Nevertheless, integration of power systems is a natural consequence of the development process. All the more reason, perhaps, to consolidate power administration ahead of the need for integrated network planning, and thus be able to move unhampered into the integration planning stage. The only alternative to such an approach would be the gradual increasing of the regulatory process over the private operators, in step with the increasing sophistication of the northern generating and grid system.

Consolidation of the power administering function would be accompanied by a decentralization of the managerial operations for more effective "on site" control. (See Appendix F, for details on a suggested approach.)

4.5 The Maintenance of a Truly Canadian Operation

The parent company governing the operations is 60 per cent foreign controlled. Such a share of foreign control only serves to indicate that decisions of the private operators regarding the development of facilities, would tend to be truly "profit orientated" rather than truly "Canadian north" orientated. Only in the government sector can a development policy be truly "Canadian north" orientated.

It is something of a paradox, that in the Canadian north, where public administration is so dominant, a private sector should exist in the electric utility field; while the opposite generally holds true in the provinces.

4.6 The Development of a Power Export Sector

The undeveloped hydro power potential of the Yukon and the Northwest Territories is estimated to be 9,000 mw, or over 10 per cent of the nation's undeveloped hydro power potential.(1) Although there is no assurance that the north will be able to develop a viable power export sector in the face of nuclear competition, policy formulation has to be cognizant of this resource potential. A unified electric utility system, as exemplified by the British Columbia case, provides strong negotiating potential for such resource development. In the case of the north, the export potential referred to, pertains to sales to provinces as well as to the United States.

COSTS

4.7 Cost of Acquisition

Irrespective of the method or extent of acquisition of the private power holdings, a cost is involved. In Section 3 an analysis was presented which reveals that a preliminary evaluation of assets and franchises sets the value at nearly $5 million. Expropriation experience (see for example the British Columbia case, Appendix C) indicates that the final settlement may be considerably in excess of a straight asset value, should the company wish to contest the matter.

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(1) "Electric Power in Canada - 1965", The Queen's Printer, Ottawa, p. 14.

Two basic costs are involved: (a) The true asset value of the properties as determined by an evaluator, and (b) the corporate claim to additional values. Whereas a preliminary figure has been placed on the former cost, the latter cost is open to speculation.

International Utilities is strongly wedded to a policy of development in the Western Provinces. The Corporation is also aware that it is an "anomalous" force in the electrical utilities field in Canada, and the British Columbia power nationalization experience has made IU "nervous".(1) What is the strategy of IU likely to be, should it be approached with a suggestion that it sell its holdings north of the 60th parallel to the Canadian Government? Would it be inclined to do so "quietly" subject to an independent appraisal, or would it contest the matter strongly, with the likelihood of a higher settlement price and high legal costs to the Government.

IU may believe that expropriation of its northern operations will be a factor of consequence as regards its operations in Alberta. Would this "belief" incline the Company to a quiet "rapid sale" or, on the contrary, make it contest the issue strongly? The attitude which IU is likely to take will also be affected by considerations pertaining to its other interests operating in the two territories, namely, bus and truck lines, a mine, and the White Pass and Yukon Railway (in which it has a holding). Consideration of IU's possible strategy is likely to be a prominent factor in Government's decision making process.

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(1) Financial Post, December 9, 1967.

4.8 The Political Cost - to the Public

The cash benefit which could be passed on to the public as a result of the acquisition of these private holdings would be minimal. Nevertheless, it is likely that public opinion will be led to believe that major benefits will accrue.

Government must realize, accordingly, that in order to maintain a good "public opinion rating", it will have to show the public something tangible as a result of such a taking, (particularly as a countering measure, should the company see fit to publicize its case in the form of a "wrong-doing").

Any form of expropriation is likely to focus attention strongly on power costs, and one obvious "public relations" approach would be to provide some rate adjustments. Government will have to be careful, however, not to be forced into making the power rates a "political tool" of appeasement. The introduction of any "fictitious" benefits, largely for purposes of public relations will have to be viewed as a cost in the venture.

Also, if expropriating action is not accompanied by the pronouncement of a sound power development strategy, a further cost would be incurred in terms of loss of public goodwill.

4.9 The Political Cost - In the National Sense

It is only to be expected that expropriating action is likely to be pulled into the political arena for the benefit of various [illegible]. The magnitude of the detrimental "cost" on this score may be minimized by thorough advance forewarning, (possibly on a confidential basis on a number of fronts), accompanied by good timing for the public [illegible].

Although expropriation will be setting no new prec[illegible] the nature of the action that those who are in favour of [illegible] inclined to make political capital out of it.

5 ACQUISITION ROUTES

Electric utility systems are made up of three basic components - generation facilities, transmission facilities and distribution facilities. Since these systems are physically divisible, acquisition could be partial rather than total.

Partial acquisition by government could mean the takeover of generation and transmission systems, with the distribution of electricity being left to private interests. Such a policy is commonly adopted and sets no precedents. For example, the 1959 Royal Commission investigating the British Columbia Power Commission stated:

> "We believe that the more important role of public power lies in the fields of generation and transmission and not in distribution. In any long-term planning, the latter might be assigned to private enterprise or to municipal organization."(1)

An approach whereby the distribution system would be left in private hands and administered by Territorial authority, would present the following advantages:

(1) Lower expropriation costs (possibly about $1.5 million less);

(2) The continued participation of the Territorial Government in overseeing the distribution of power.

The possibility exists that the companies concerned would not be willing to continue to operate the distribution system under such an arrangement. In that case, the Government could acquire the distribution system and sell it to an interested operator. This was the procedure adopted by the Tennessee Valley Authority in the United States, which retained all generation and transmission systems but sold the distribution systems to cities and co-ops, thereby removing itself entirely from the distribution end of the power business.

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(1) British Columbia Government News, Vol. 7, No. 8, p. 3, September 1959.

The method of acquisition, as previously mentioned, may be either negotiation or expropriation.

To illustrate a simple model of a negotiation approach: The company is approached with an intent to purchase offer. If it expresses interest, an evaluation is arrived at by an independent appraisal. The final amount is settled upon. Government requests authority to empower an appropriate Government body to purchase the assets in question. The purchase is effected and Government begins to operate the facilities.

A simplified model of expropriation proceedings would be as follows: Government announces intent to expropriate. Government begins to operate the facilities. The case is referred for arbitration. A court settlement is made.

6 ASPECTS OF RE-ORGANIZATION

6.1 Administrative Structure

The Northern Canada Power Commission reports to the Minister of Indian Affairs and Northern Development. These two governmental bodies, N.C.P.C. and I.A.N.D., are the instruments of northern power planning and administration.

The Department of Energy, Mines and Resources plays a relatively small part on the northern electrical energy scene, largely because of the small northern electrical energy base. If it is valid to assume that the "umbrella" role of Energy Mines and Resources is not pertinent to the matter at hand, then re-organizational aspects in the event of any major new developments in northern electrical energy will be confined to N.C.P.C. and I.A.N.D. A memorandum, containing the preliminary views of N.C.P.C. on this subject, is presented in Appendix F.

The development of electric power in the north may be viewed as the development of a northern infrastructure and also as the development of the natural resource of hydro power potential. Accordingly, the role of the power administering body in the north may be considered to be one of formulating power development plans and translating them into action once they had received approval. Such plans would be part of a northern development strategy as drawn up by I.A.N.D.

Further development of these concepts is considered to lie outside the scope of this analysis.

6.2 Toward a Sound Northern Power Policy

Neither is it intended to imply that the present northern power policy is not sound, nor that any new developments of acquisition or re-organization will of themselves lead to better things.

Soundness will stem from close co-ordination of energy development with other economic development. The principle strength of a sound power policy will stem out of correct and far-sighted decisions in the planning for future growth. And the fruits of sound planning will bear only if the required developmental funds are forthcoming at the times when required.

The principle safeguards which will have to be built into a sound policy are those which will prevent electric power becoming another tool for the extending of subsidies to northern development. The structuring of rates to meet specific objectives can be achieved while still maintaining a viable overall operation. But once a departure is made from the concept of providing power on a break-even basis, it becomes exceedingly difficult to return to that base. The experience in the Atlantic Provinces and the subsidies under the Atlantic Provinces Power Development Act, illustrate well how confused the reasoning may become, as well as how persistant the pressures for "low cost" (meaning subsidized) power can be.

The north is a high cost area, and as long as these specifically northern cost factors are maintained "in the open" there remains an awareness to them. Once these costs become disguised under power subsidies (or other subsidies) the difficulties of formulating rational development plans are compounded.

APPENDIX A

DETAILS OF PHYSICAL PLANT

NORTHERN
CANADA
POWER
COMMISSION

Head Office 251 Bank Street, Ottawa 4, Ontario Canada

NPC 6-8-7

November 3, 1967

Mr. G.H. Caldwell, Chief,
Resource Management Division,
Resource and Economic Development Group,
Department of Indian Affairs & Northern Development,
Centennial Tower,
400 Laurier Avenue West,
Ottawa, Ontario.

Dear Sir:

In reply to your letter of October 23, 1967, and the subsequent meeting held in your offices on October 30th, the following comments and information constitute progress to date.

a) The organizational arrangements pertinent to the expanded function have been drafted in a very preliminary state and require comparison and discussion here before final drafting. We estimate this will be ready in approximately one week's time.

b) A map was submitted on October 27th, and this has been revised to include N.C.P.C. installations as discussed during the October 30th meeting. Four copies of the revised map are attached.

The financial assessments of the privately-owned commercial utility installations have purposely been omitted from the map, but are listed below. Information covering population, installed capacity and number of consumers for the privately-owned utility installations was obtained from DBS.

It is to be noted that the assessments have been made on the basis of statistics only and are, therefore, only a yardstick to indicate a range of value. Accuracy of value will require:

I) A competent "on the ground" appraisal of the market worth of the installations.

II) Examination of the financial records of the companies, especially to determine:

1. Ratio of bonded to equity capital.
2. Financing of new installations and additions, whether from capital or earnings.
3. Profit or loss position of individual installations, and methods used to determine.

III) Duration and terms of franchise.

Y.E. Company Installation in the Yukon

Location	Type	Installed Capacity	Value of D & P
Whitehorse	D & P	1650 kw hydro	$1,750,000
Watson Lake	D & P	1250 kw diesel	360,000
Carmacks	D & P	200 " "	150,000
Destruction Bay	D & P	500 " "	150,000
Haines Jct.	D & P	400 " "	100,000
Teslin	D & P	450 " "	100,000
Beaver Creek	D & P	310 " "	100,000
Ross River	D & P	220 " "	60,000
Old Crow	D & P	110 " "	60,000
Stewart Crossing	D & P	120 " "	40,000
Carcross - Y.E. Co.	D only	-	20,000
Keno "	D only	-	20,000
Upper Liard "	D only	-	10,000
Y.E. Co. total in Yukon			$2,920,000
Estimated settlement in lieu of earnings until expiry of franchise			480,000
			$3,400,000

N.C.P.C. Installations in the Yukon

Location	Date Completed	Type	Installed Capacity	Cost
Whitehorse	1958	P	11,000 kw hydro	$ 7,200,000
Whitehorse *	1969	P & T	8,000 kw hydro 9,000 peaking diesel	9,200,000
Mayo	1952	P & D & T	4,500 kw hydro	4,800,000
Dawson	1967	P & D	750 kw diesel	570,000
N.C.P.C. Total Investment				$21,800,000

* Under Construction

Symbols – D = Distribution
P = Production
T = Transmission

Privately-Owned Installations in the N.W.T.

Location	Owner	Type	Installed Capacity	Estimated Value
Hay River	Northland Utilities	D & P	2475 kw diesel	$ 600,000
Fort Providence	"	D & P	150 " "	70,000
Enterprise	"	D & P	unknown "	30,000
Yellowknife	P.W.G. & E.	D only	–	600,000
Total Estimated Value				$1,300,000
Settlement in lieu of earning potential for duration of franchise				250,000
				$1,550,000

N.C.P.C. Installations in the N.W.T.

Location	Date of Initial Installation	Type	Present Capacity	Cost
Snare	1948	P & T	13,000 kw hydro	$ 9,500,000
Fort Smith	1950	P & D	2250 kw diesel	500,000
Fort Simpson	1958	P & D	1100 kw diesel	370,000
Inuvik	1958	P & D	4500 kw diesel	1,800,000
Fort McPherson	1958	P & D	750 kw diesel	220,000
Inuvik	1959	P & D	750 kw diesel central heating plant & utilidor	7,000,000
Fort Resolution	1961	P & D	325 kw diesel	160,000
Frobisher Bay	1964	P & D	4,000 kw diesel 70,000 lb/hr steam	3,500,000
Aklavik *		P & D	470 kw diesel	120,000
Taltson	1965	P & T	18,000 kw hydro	9,600,000
Pine Point	1965	D only	-	110,000
Coppermine	1967	P & D	600 kw diesel	150,000
N.C.P.C. Total Investment				$33,000,000

* Operated on behalf of I.A.N.D. by N.C.P.C.

Based on the above assessments, it can be said that the value of Yukon Electric's holdings in the Yukon Territory is estimated to be in the range of $3,000,000 to $5,000,000. The value (at cost) of N.C.P.C.'s investments in plants in the Yukon will be (in 1969) $21,800,000.

In the Northwest Territories, the combined value of Northland Utilities' and Plains Western Gas & Electric's holdings is estimated to be in the range of $1,500,000 to $2,000,000. The value (at cost) of N.C.P.C. investment in plants in the N.W.T. is $33,000,000.

There are other plants shown on the map, owned by Cassiar Asbestos, Cominco and Imperial Oil. These are all captive plants and are beyond the scope of this exercise because they are not commercial utility operations.

According to DBS, commercial utility operations do not exist beyond the area encompassed by the attached map.

Some of the advantages of a public utility operation in the Yukon Territory and Northwest Territories can be summarized as follows:

I) Lower power rates possible by virtue of lower interest capital, and the absence of both the depreciation fund and profit requirement.

II) Overall general economy inherent in one larger operation.

III) Ability to equalize power rates without the need of Public Utilities Boards to investigate and regulate separate operators.

IV) Freedom and ability to achieve long term planning in tune with overall development of the Territories. As development occurs, this means, in general, fewer and larger more efficient plants.

V) Interconnection possibilities of existing and future generating stations between both Territories, and possibly beyond.

The first question likely to arise in an expropriation controversy is that of rate reduction and/or rate equalization. Some estimating has been done on this subject, based on the preliminary assessments, and it is suggested that these results be discussed in a future meeting.

With regard to the part (c) of your October 23 letter, I understand that the requested information has already been obtained.

Yours truly,

(sgd. J.M. Lowe)

J.M. Lowe,
Assistant General Manager.

APPENDIX B

CORPORATE INTERESTS OF INTERNATIONAL UTILITIES IN NORTHERN AND WESTERN CANADA

This listing is provided in order to illustrate the extensive holdings of International Utilities in Northern and Western Canada. In addition to the operating subsidiaries listed below, IU holds major blocks of stock in Peace River Mining and Smelting Limited (170,000 common), Power Corporation of Canada Ltd. (400,000 common and 39,000 preferred), and The White Pass and Yukon Corporation Ltd. (152,775 common). The Company also recently took up a 15 per cent participation in the Ranger Oil (Canada) Ltd. - Husky Oil Canada Ltd. group which is doing oil exploration in northwestern Alberta.

B.1 Utility Companies

Canadian Utilities Ltd.

This is the largest private electric utility company in Canada, supplying power to about 172,000 persons in Alberta, Saskatchewan and Yukon. Its wholly-owned subsidiaries, Yukon Electric, Yukon Hydro (both purchased in 1958), and Fort McMurray Power Co. Ltd . (purchased in 1966), do not publish annual reports and little direct information is available concerning these companies.

Canadian Western Natural Gas Co. Ltd.

A wholly-owned subsidiary of IU, supplying natural gas to Calgary, Lethbridge, Banff and 82 other communities in southern Alberta.

Northland Utilities Ltd.

This wholly-owned subsidiary of IU publishes an annual report on a consolidated basis together with its two wholly-owned subsidiaries, Northland Utilities (B.C.) Ltd. and Uranium City Power Ltd.

Northwestern Utilities Ltd.

A wholly-owned subsidiary of IU, distributing natural gas to Edmonton and 91 other Alberta communities.

Yukon Electric Co. Ltd. and Yukon Hydro

These companies are controlled by IU through Canadian Utilities Ltd. Some information on these two companies may be obtained from the annual reports of Canadian Utilities Ltd.

In its 1966-67 operating year, the Yukon Electric registered sales of approximately 30 million kilowatt hours, up 14 per cent from 1965-66. Revenue from these sales was up 9 per cent over the previous year. The Company has budgeted capital expenditures of $419,000 for 1967-68, of which $110,000 is allocated to new offices recently completed in Whitehorse.

The following information is contained in the annual report of Canadian Utilities Ltd., under the heading Canadian Utilities Ltd. (Yukon Investments):

Acquisition of Yukon Hydro and Yukon Electric (1958) (1)	$1,230,328
Replacement Value as of September, 1957 with subsequent additions at cost (2)	$3,103,871

B.2 Other Operations

Canadian Coachways Ltd.

The Company operates bus routes in British Columbia, Alberta and the Northwest Territories through 11 directly and indirectly owned subsidiaries. IU owns all the preferred and 90 per cent of the common stock.

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(1) Canadian Utilities Annual Report, 1958 inferred from statement on acquisitions.
(2) " " " " , 1967.

Echo Bay Mines Ltd.

A silver-copper mine in the Northwest Territories in which IU has a 73 per cent interest.

Vancouver Island Transportation Ltd.

Another bus company in which IU has a 96 per cent interest.

APPENDIX C

PROVINCIAL ENERGY POLICY - NOTES

Newfoundland

Most energy development in Newfoundland is the direct responsibility of the provincial government with some industrial needs being supplied by individual companies to their own requirements.

The ability of the province to attract industry has to a large extent been enhanced through the development of a comprehensive transmission grid which "... was planned by the provincial government in the full knowledge that Newfoundland's major source of future power will be the transmission from the province's large power developments on the Churchill River in Labrador". (1)

Because it enjoys complete control of the province's energy system, the Newfoundland and Labrador Power Commission has been able to pursue a long-term development scheme which will eventually enable the whole province to share in the advantages of the integrated system. This has further permitted the installation of plant and construction of transmission lines, in locations best suited to the acceptance of future expected generation infeeds.

Ontario

The Hydro Electric Power Commission of Ontario, established in 1906, is responsible for the supply of electricity and the co-ordinated

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(1) W.S. Read, Manager of Engineering, Newfoundland and Labrador Power Commission - reported in Electrical World, December 25, 1967, P. 21.

development of energy resources in the province. Apart from captive plants serving the internal requirements of some industries, all energy generation and transmission facilities in the province are owned by Ontario Hydro.

Quebec

The entire privately owned commercial electrical system of Quebec was nationalized in 1963 by Premier Lesage in accordance with policies declared prior to the provincial election of November, 1962. Policy pronouncements in the press at the time, stated inter alia, that nationalization was:

(a) a tool for ensuring provincial antonomy;

(b) a source of re-distributed profits;

(c) an aid to comprehensive economic planning at the public level; and

(d) a program permitting acceleration of development in remote areas; ("... it may permit a flexibility of rates which will attract industry."(1)

Other claims were to the effect that "... nationalization is not simply nationalization; it is liberation or emancipation, the end of a colonial regime, and the true commencement of economic independence."

The nationalized system is now controlled entirely by the Quebec Hydro-Electric Commission with two exceptions - these being the Asbestos Corporation Ltd. plant at Asbestos Hill, and the transmission facilities of the Saguenay Transmission Co. Ltd.

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(1) The Gazette, Montreal, October 30, 1962, P. 14.
(2) The Gazette, Montreal, October 2, 1962.

British Columbia (1)

All major commercial energy systems in the province are the responsibility of the British Columbia Hydro and Power Authority and have been since the British Columbia Electric Company was nationalized in 1961. The Authority was established through amalgamation of B.C. Electric and the British Columbia Power Commission.

The British Columbia Power Corporation, former owner of the B.C. Electric Co., commenced a court action in 1961 contesting the nationalization on the basis that the various provincial statutes were ultra vires and that the compensation was inadequate. Subsequent litigation confirmed both that highly improper legislation had been enacted, and that the valuation was approximately thirty million dollars too low.

The provincial legislature, therefore, increased the compensation payable from $160,000,000 to $197,000,000 and enacted the Power Measures Act of 1964, thereby terminating all litigation and confirming the carrying-on of business by the B.C. Hydro and Power Authority.

The establishment of this Authority was a critical prerequisite to the ratification in 1964 by the U.S. and Canada of the Columbia River Treaty and Protocol. The terms of the Treaty were such that complete public control of development on the rivers was mandatory and this is probably the major reason for instituting the nationalization program at that time.

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(1) See B.C. Government News, Vol. 7, No. 8, September 1959, "Report of the Royal Commission in the Matter of the British Columbia Power Commission"; "An Act to Establish the British Columbia Hydro and Power Authority" 1964, Chap. 7; "Western Weekly Reports", Vol. 44, on valuation of all assets of the B.C. Electric Company when expropriated.

It must be emphasized that, although most power development in the province is carried on by the Power Authority, there are still many significant privately owned energy systems; for example, Cominco at Trail, Columbia Cellulose near Prince Rupert, Crown Zellerbach at Ocean Falls, and half a dozen others. These are essentially captive plants, however, fulfilling internal requirements of the large smelters, pulp mills, and other industrial undertakings in the province.

APPENDIX D

FOREIGN ENERGY POLICY - NOTES

Australia [1]

The entire commercial energy system is state-owned.

Brazil [2]

All significant energy planning and development in Brazil is directly controlled by Electrobras (Centrais Electricas Brasileiras S.A.), a holding company which appears to be the Brazilian equivalent of a Crown Corporation.

While many states possess their own regional power companies, major developments are normally undertaken by a consortium of Electrobras and the state companies concerned. Multiple financing systems are common, with participation by the local government, Electrobras, the National Development Bank of Brazil, the Interamerican Bank of Development, and the World Bank.

France [3]

The majority of France's electrical systems were nationalized shortly after World War II with control being vested in Electricité de France (E.D.F). The E.D.F. dominates but does not monopolize the electricity supply industry being responsible for 60 per cent of all energy production. Of the remaining 40 per cent, 31 per cent is produced by other nationalized industries for internal consumption - e.g., the coal and steel industries.

The E.D.F. operating and financial policies are similar to those of the Northern Canada Power Commission, though on a much greater scale. Its rates are set through a complex formula entitled the

"Tariff Vert" (Green Tariff) and debt financing is obtained through the government's Economic and Social Development Fund at substantially less than prevailing rates of interest.

Greece [4]

Prior to 1950, all major electrical systems were privately owned, largely by British interests. After that date, the Greek government established the Public Power Commission (P.P.C.) which, with the aid of Marshall Plan funds and Italian war reparations payments, was to develop and implement a program intended to modernize and expand the existing system.

The P.P.C. appears to be a largely autonomous agency reporting to the government through the Minister of Industry. The managing body, consisting of a nine-man board, is appointed by the government on the Minister's recommendation. In general, its management and financing policies appear to parallel those of the Northern Canada Power Commission with few exceptions.

Iran (Khuzestan Region) [4]

Prior to 1957-58, the Khuzestan region had a primitive and unreliable electricity system controlled by numerous public and private agencies. With the aid of the Development and Resources Corporation, the Government of Iran has since established the complete control and integration of these systems under the Khuzestan Water and Power Authority (K.W.P.A.) as a first step in the rehabiliation of the industry.

The managing director of K.W.P.A. is appointed by the Prime Minister on the recommendation of the Deputy Prime Minister who is responsible for the agency. K.W.P.A., while government owned, has been granted sufficient autonomy to act as an independent enterprise, particularly with respect to the setting of rates, financing and internal operations. It has, for example, entered into long-term contracts with Ontario Hydro on its own initiative and has retained Ontario Hydro personnel in its Power Division to operate projects and train staff.

New Zealand [5]

Of all the energy produced in New Zealand, approximately 90 per cent is generated and sold by the state-owned energy commission.

Uganda [4]

Most commercial energy supply systems are owned and operated by the Uganda Electricity Board (U.E.B.) but the larger industrial firms often maintain their own plant.

United Kingdom [6]

In England, all energy supply was consolidated under the Central Electricity Board by the Labour Party in 1948. It is of interest to note that, although it was still state-owned and subject to the Ministry of Power, the distribution system was placed in the hands of Regional Boards, each consisting of a chairman and seven members from the area being supplied.

Above these Regional Boards were established the Electricity Council and the Central Electricity Generating Board (C.E.G.B.). The present Minister of Power, Mr. Richard Marsh, is proceeding with a

restructuring which will even further centralize control. Ultimately, this will consist of a merging of the C.E.G.B. into the Electricity Council, probably in anticipation of the establishment of a national power grid.

United States [4, 7]

With the passage of the Rural Electrification Act (R.E.A.) of 1936, the Federal Government established a continuing program for the provision of loans to private companies, co-operatives and state electrical agencies to finance the construction and operation of generating plants, transmission and distribution lines, and other facilities related to energy production.

While established primarily as an emergency relief program, the R.E.A. was extended indefinitely after 1944 and has continued to participate in the development of rural electric systems now serving 54 per cent of American farms.

The Tennessee Valley Authority (T.V.A.) was established as an off-shoot of the R.E.A. agency to pursue R.E.A. objectives in that region. Its first step in this direction consisted of the purchase by negotiation of all existing systems in the region and integration of these with its own newly constructed facilities. The T.V.A. has since pursued a comprehensive plan for integrating development of energy and water resources throughout the Tennessee River Valley.

Development funds employed by T.V.A. have normally come from two sources - earnings and direct congressional appropriations. The practice of late, however, has been to issue revenue [illegible] in order to finance further expansion and maintenance.

confirmation of a now established trend towards greater autonomy in most publicly-owned utility systems in the United States.

In the national sense, the U.S. energy system reflects a fairly even balance between publicly-owned, and closely regulated privately-owned systems. The successes of each, given the conditions under which they are established, have been roughly comparable and mutual co-operation in integrating and pooling of resources has been markedly successful.

These successes have encouraged the creation of a national power grid which is now almost completed - an arrangement now being considered as viable in Canada also.

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APPENDIX E

APPRAISAL* OF THE DESIRABILITY FOR A PUBLIC UTILITIES ACT IN THE YUKON AND THE NORTHWEST TERRITORIES

CONTENTS

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* By D.C. Emerson Mathurin, Economic Staff Group,
Resource and Economic Development Group,
Department of Indian Affairs and Northern Development.

January, 1968.

INTRODUCTION

At its 34th Session, the Council of the Northwest Territories adopted a motion requesting a study of the possibility and feasibility of establishing a Territorial Utility Corporation to supply electrical energy to all communities in the Northwest Territories where private suppliers were not already established, this Corporation to take over present Government and Northern Canada Power Commission establishments.[1]

This study is peripheral to the study which has been undertaken on northern electric power in the North,[2] as well as being an outgrowth of the aforementioned motion adopted by the Council of the Northwest Territories. The question of public utilities in the North has been a much-discussed one for some time, and it was felt that, with the power study underway, it would be useful to examine the entire public utilities situation in the North with a view to making recommendations aimed at the social upliftment of the indigenous population.

SUMMARY AND CONCLUSIONS

1. The term public utilities, as used in this study, refers to a system

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[1] See "Recommendation to Council No. 2 (Second Session, 1967), Territorial Utility Corporation," Government of the Northwest Territories, November 9, 1967.

It should be mentioned that an ordinance to establish a Public Utilities Board in the Northwest Territories was enacted as far back as July 18, 1963. The board which was constituted dealt exlcusively with the granting of franchises for the production, transmission, delivery and/or furnishing of electricity primarily for sale to the public.

[2] See "An examination of aspects related to acquisition of private power interests in the Yukon and the Northwest Territories," Resource and Economic Development Group, Department of Indian Affairs and Northern Development, January, 1968.

whereby certain basic services, such as the supply of water and electricity and the disposal of sewage, are provided to a community.

2. The purpose of the study is to appraise the desirability for introducing an Act, generally called a Public Utilities Act, whereby the existing systems in the Yukon and the Northwest Territories would be regulated.

3. The public utilities examined are in the areas of water supply and distribution, sewage and garbage disposal, electricity supply, telephone services, municipal transportation, and delivery of heating oil.

4. The examination reveals that the two territories are especially lacking in the services of water supply, and garbage and sewage disposal, and that the lack is mostly confined to the smaller settlements because of one or all the following reasons:

   (i) A large number of the indigenous people cannot afford to pay for better services;

   (ii) A large number of the indigenous people live in homes that are constructed of scrap material, and these homes are not equipped to accommodate essential services;

   (iii) The territories lack a sophisticated infrastructure; and,

   (iv) Due to physical restraints in the territories, potential and actual owners of public utilities can achieve limited success in efforts to improve services.

5. The real problem with which the territories are faced is an overall lack of public utilities, and not an inadequacy in the services provided when viewed in terms of the payment made for them. In view of this distinction, it is concluded that there is no present need for a Public Utilities Act in the Yukon and the Northwest Territories, for there is

essentially little for a Board, which would be constituted by th Act, to oversee, regulate and enforce. Furthermore, no definite or overall standards by which a Public Utilities Board could ope can be set in the territories under prevailing conditions.

6. This is not to say that efficiency of operation of public utilit cannot be improved in the territories. Indeed, there are a few (for example, in the distribution of water, the disposal of garb and sewage, and the delivery of heating oil) where the owners of public utilities could possibly adopt some measures to improve u the efficiency of the services they render.

DEFINITION

The term public utilities is used in at least two senses by the profession. On the one hand it may refer to an entity, namely a pers firm or corporation who or which, inter alia, manages or controls equ or facilities for the conveyance or transmission of telephone or tele messages; for the production, generation, storage, transmission, deli furnishing of electric power or energy, water or heat; and for the co treatment or disposal of sewage and garbage.

On the other hand, the term may refer to a system or service (al works, plant or equipment) for, inter alia, the conveyance of telepho or telegraphic messages; for the conveyance of travellers or goods ov railway, street, etc.; and for the production, transmission, delivery furnishing of water, heat, light or power.

Throughout this study the term will be used in the second sense referred to above (i.e. particularly as a service), while persons, fi corporations providing the service within the territories will be reg as owners of public utilities.

The following public utilities which are provided in the Yukon and the Northwest Territories are included in the context of the study:

(a) Community facilities - water, sewage and garbage;

(b) Power - electricity;

(c) Communications - telephone;

(d) Transportation - trucking and delivery of heating oil.

METHOD OF APPROACH

Descriptions of settlements in the Northwest Territories were compiled for and submitted as a working paper to the Advisory Commission on the Development of Government in the Northwest Territories prior to the Commission's visit to the settlements described. These descriptions, which were conceived as the most convenient way of providing the members of the Commission with a record of conditions as they existed as lately as in 1965 and 1966, covered most of the public utilities with which this study is concerned. The Commission's report, therefore, was an important source of information in the preparation of this study.

The engineers of the Department of Indian Affairs and Northern Development were very helpful, in that they provided up-to-date information on public utilities existing in the territories. Mr. J.R. Fraser of the Resource and Economic Development Group initiated work on this study; many of the ideas included in this final manuscript were drawn out of his preliminary investigations.

Ideally, a field trip would have produced a more detailed study, but circumstances did not permit such a trip. In the absence of first-hand knowledge that would have been obtained from such a field trip, it became necessary to treat the subject in very general terms.

The Commission observed that there were fifty one (51) settlements in the Northwest Territories. A sample of the settlements was taken to include only those whose population numbered two hundred and fifty or more persons (see table on the following page). The choice of this figure was based on the assumption that it is unlikely for public utilities to be provided to centres with smaller populations. A preliminary assumption is made, therefore, that public utilities are, in the main, absent in smaller settlements. Eight (8) Yukon settlements were considered in the sample.

Throughout the study, emphasis is placed on the indigenous population and the manner in which the latter are affected by existing public utilities in the territories.

THE EXISTING SITUATION

Much has been written in recent years about the public utilities in Northern Canada, and the literature is replete with adjectives as "squalid" and "appalling" as they refer to most of the public utilities found in the Yukon and the Northwest Territories.[1] According to both the literature and to the government officials who have been stationed in the territories, the situation is particularly bad in the smallest and most isolated settlements where, almost always, the small overcrowded houses have neither toilets, plumbing, bathing facilities nor electricity.

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(1) See, for example, Peter J. Usher, Economic Basis and Resource Use of the Coppermine - Holman Region, N.W.T., NCRC-65-2, Department of Northern Affairs and National Resources, August, 1965; G. Abrahamson et al, The Copper Eskimos, An Area Economic Survey, 1963, Industrial Division, Department of Northern Affairs and National Resources, February, 1964; and Diamond Jenness, Eskimo Administration: II. Canada, Arctic Institute of North America, Technical Paper No. 14, May, 1964.

UTILITIES MATRIX FOR SELECTED SETTLEMENTS IN NORTHERN CANADA

SETTLEMENTS	TERRITORY	POPULATION	UTILITIES						
			WATER	SEWAGE	GARBAGE	ELECTRICITY	TELEPHONE	TRANSPORTATION	HEATING OIL (delivery)
AKLAVIK	N.W.T	611	D.I.A.N.D L.C	D.I.A.N.D	D.I.A.N.D L.C	D.I.A.N.D	C.N.T	L.C	I.O.L D.I.A.N.D
BAKER LAKE	N.W.T.	596	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.O.T	B.T.C	NIL	D.I.A.N.D H.B.C D.O.T
CAMBRIDGE BAY	N.W.T	511	L.C	L.C	L.C	N.C.P.C	C.N.T	L.C	L.C
CAPE DORSET	N.W.T	357	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	B.T.C	NIL	D.I.A.N.D H.B.C
COPPERMINE	N.W.T	536	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	N.C.P.C	C.N.T	NIL	D.I.A.N.D H.B.C
ESKIMO POINT	N.W.T	464	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	B.T.C	NIL	D.I.A.N.D H.B.C
FORT FRANKLIN	N.W.T	311	NIL	NIL	NIL	D.I.A.N.D	C.N.T	CO-OP	D.I.A.N.D
FORT NORMAN	N.W.T	250	L.C	NIL	D.I.A.N.D	D.I.A.N.D	C.N.T	L.C	H.B.C
FORT PROVIDENCE	N.W.T	378	L.C	L.C	NIL	N.U	C.N.T	L.C	D.I.A.N.D I.O.L
FORT SIMPSON	N.W.T	716	N.C.P.C	N.C.P.C	L.C	N.C.P.C	C.N.T	L.C	I.O.L
FORT SMITH	N.W.T	2121	M	M	M	N.C.P.C	C.N.T	L.C	X
FROBISHER BAY	N.W.T	1651	L.C	L.C	L.C	N.C.P.C	B.T.C	L.C	I.O.L
NORMAN WELLS	N.W.T	318	I.O.L	I.O.L D.O.T	I.O.L D.O.T	I.O.L	C.N.T	D.O.T I.O.L	I.O.L
HAY RIVER	N.W.T	2004	M	M	M	N.U	C.N.T	L.C	X
IGLOOLIK	N.W.T	328	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	B.T.C	NIL	D.I.A.N.D H.B.C
INUVIK	N.W.T	2043	L.C N.C.P.C	L.C N.C.P.C	L.C N.C.P.C	N.C.P.C	C.N.T	L.C	I.O.L D.I.A.N.D
PANGNIRTUNG	N.W.T	385	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	B.T.C	L.C	H.B.C D.I.A.N.D
PINE POINT	N.W.T	459	M	M	M	N.C.P.C	C.N.T	NIL	X
RAE	N.W.T	779	T.G	L.C	L.C	D.I.A.N.D	C.N.T	L.C	I.O.L
RANKIN INLET	N.W.T	429	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	B.T.C	NIL	D.I.A.N.D H.B.C
TUKTOYAKTUK	N.W.T	511	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	D.I.A.N.D	C.N.T	NIL	D.I.A.N.D H.B.C
YELLOWKNIFE	N.W.T	3745	M	M	M	PWG&E	C.N.T	L.C	X
WHITEHORSE	YUKON	5031	M	M	M	N.C.P.C Y.E	C.N.T	L.C	X
DAWSON CITY	YUKON	881	N.C.P.C	M	M	N.C.P.C	C.N.T	L.C	X
WATSON LAKE	YUKON	597	NIL	T.G	NIL	Y.E	C.N.T	L.C	X
ELSA	YUKON	395	U.K.H.M	U.K.H.M	U.K.H.M	N.C.P.C	C.N.T	U.K.H.M	U.K.H.M
CALUMET	YUKON	377	U.K.H.M	U.K.H.M	U.K.H.M	N.C.P.C	C.N.T	U.K.H.M	U.K.H.M
MAYO	YUKON	342	M	M	M	N.C.P.C	C.N.T	L.C	X
CARMACKS	YUKON	218	NIL	NIL	NIL	Y.E	C.N.T	L.C	X
OLD CROW	YUKON	217	T.G	T.G	T.G	Y.E	C.N.T	NIL	D.I.A.N.D

PREPARED BY: D.C. EMERSON MATHURIN — ECONOMIC STAFF GROUP JAN 1969

LEGEND

MUNICIPAL ____________ M
NORTHERN CANADA POWER COMMISSION ________ N.C.P.C
LOCAL CONTRACTORS (and others) ______________ L.C
NO PUBLIC UTILITY ________ NIL
YUKON ELECTRIC ___________ Y.E
NORTHLAND UTILITIES ________ N.U
IMPERIAL OIL LTD _________ I.O.L
PLAINS WESTERN GAS & ELECTRIC ________ PWG&E
CANADIAN NATIONAL TELECOMMUNICATIONS ______ C.N.T
DEPT OF TRANSPORT _______ D.O.T
DEPT OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT __ D.I.A.N.D
BELL TELEPHONE COMPANY ____ B.T.C
BRITISH YUKON NAVIGATION ___ B.Y.N
UNITED KENO HILL MINES ____ U.K.H.M
CO OPERATIVE __________ CO-OP
HUDSON BAY COMPANY _____ H.B.C
SEVERAL COMPANIES ________ X
TERRITORIAL GOVERNMENT ______ T.G

SOURCE OF DATA

1 D.B.S
2 ECON STAFF GROUP
3 INDIAN AFFAIRS BRANCH
4 NORTHERN ADMIN BRANCH
5 CARRUTHERS REPORT

NOTE

1 N.W.T POPULATION WAS RECORDED IN 196
2. YUKON POPULATION WAS RECORDED IN 196

At the other extreme, one finds that most of the larger settlements (say, with a population of over 250 persons) are provided with public utilities, but that the standards of the latter are sometimes below those normally considered acceptable in Southern Canada.

Piped water is the exception rather than the rule throughout both territories, but particularly so in the Northwest Territories, and most of the inhabitants either have to haul their supply of drinking water from rivers on an individual basis in pails and/or 45 gallon drums (in winter, ice is cut and hauled by a dog team) or obtain it from trucks, generally provided by the Department of Indian Affairs and Northern Development. In some instances, drinking water is obtained from a water-point system, but only in rare cases is water obtained from the relatively expensive utilidor system.

The method of acquiring supplies of water in the territories varies from place to place. The degree of crudeness of the different methods is directly related to such factors as geological and climatic conditions, size of population, income, education in basic hygiene, mores, etc. Thus, the existence of permafrost in several settlements precludes the sinking of wells or the installation of underground water conduits. However, a more convenient supply of water for home use is needed in many if not all settlements.

The sewage and garbage facilities in the territories are usually primitive, particularly in the smaller centres. Acceptable sewage facilities are found in most of the larger settlements. However, in small settlements, like Holman for example, it is often the case that "natural functions are conducted outside next to the dwelling, or, in winter, in a tin can or similar type of chamber pot, which remains in the house until its contents are dumped out in the snow nearby".[1] Many natives dump winter sewage out on the ice in drums where it can be carried away at breakup, while in summer sewage is either dumped into the sea or into covered pits. Used water is either thrown on the ground near the houses or is allowed to run out in open drainage ditches to the sea.

The disposal of garbage in the territories is often a problem. Often garbage is burnt in incinerators made from oil drums, but the custom of dumping refuse and sewage outside homes continues as well, with the result that health hazards are created when the snow melts. Of the Coppermine-Holman Region, Usher writes:

> "Garbage is also thrown out indiscriminately in the vicinity of the dwellings. It consists, however, mostly of cans and bones, as very little paper is used. Offal and other unwanted parts of butchered animals are sometimes left lying on the ground, and a dead dog surrounded by flies is not an uncommon sight in summer.
>
> At Coppermine.... the majority of Eskimo houses are located on the east-side of the settlement in a poorly drained area. In May, when the snow is melting, the appearance of this area is appalling. All the refuse cast out during the winter reappears, with its attendant odour. Small streams of almost freezing water trickle through the area, and foul, stagnant pools form in pits and hollows."[2]

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[1] Peter J. Usher, op. cit., p. 103

[2] Ibid, pp. 103-104
For a similar viewpoint, see G. Abrahamson et al, op. cit., p. 47

According to persons interviewed by the writer, the above description is also applicable in several other settlements in the territories.

Fortunately, the Department of Indian Affairs and Northern Development, persons under contract to the Department, and such private concerns as Imperial Oil Limited, encourage spring clean-up and undertake the collection of waste for disposal; otherwise the disease and odour problem would be far more serious than at present.

Electrification of the settlements is probably as good as could be expected in isolated regions similar to those found in the territories. The Department of Indian Affairs and the Northern Canada Power Commission provide most of the electrical power found in native residences and major buildings, but such private companies as Yukon Electric, Northland Utilities, and Plains Western Gas and Electric also supply and distribute electricity in the territories. Isolation of the settlements apart, it is reasonable to assume that many more residences in the territories would be supplied with electricity if the entire indigenous population could afford to meet electricity bills.

The telephone service could be considered good under existing circumstances, and the rates compare with those of Southern Canada. Most of the service is provided by the Bell Telephone Company and the Canadian National Telecommunications, but the Hudson's Bay Company also operates radio telephones in several settlements of the Northwest Territories.

Transportation facilities are adequate in relation to the demand for trucking service in the territories, with most of the internal trucking being done by local contractors and/or cooperatives.

The delivery of heating oil is probably the most organized service in the territories, and it is undertaken by several concerns, notably the

Department of Indian Affairs and Northern Development (or persons and firms contracted by the Department) and Imperial Oil Limited. Heating of houses in cold regions is very costly, so that the total amount of oil burnt during any one winter throughout the territories is dependent not only upon temperature but also, and largely, upon the per capita income of the indigenous population. The burning of anything that is combustible in order to supplement oil heating of homes is partly a measure of frugality, but even more a result of the low per capita income of the indigenous population.

Most of the oil used is delivered in 45 gallon drums by truck. This method of delivery is inefficient from the standpoint that the delivered oil has to be pumped into the consumer's barrels. Yet, oil would be even more costly to the consumer if it had to be delivered by and pumped from trucks equipped with bulk storage.

It is the opinion of many local residents that fuel delivered at Whitehorse is too highly priced. This oil is delivered by the White Pass and Yukon Corporation via a products pipeline originating from Skagway, and distributed throughout the Yukon. The high price of oil greatly affects the cost of living in the Yukon, if only because oil is so widely used as an input in the provision of public utilities in that territory.

CONCLUSIONS AND RECOMMENDATIONS

It is pointless, for several reasons, to attempt to compare the public utilities in the territories with those in Southern Canada. The value systems and mores of the two populations are very dissimilar. Again, while there are generally good communications (in every sense of the word) between the Southern towns and cities, the territories are sparsely populated with isolated settlements. One may use prevailing conditions in Southern Canada, at best as a yardstick, in appraising the public utilities that are now found in the Yukon and the Northwest Territories.

Examination of the public utilities existing in the North reveals major problems only in the areas of water supply, and sewage and garbage disposal. Even then, these problems are mostly confined to the smaller settlements. However, conditions in the larger settlements are not beyond reproach. In almost all of them there needs to be a more convenient supply of water for home use, and better sewage and garbage disposal.

Every Canadian province has a Public Utilities Board which has been constituted by an act and which deals with all aspects of the public utilities that exist in the province.[1] It is as a result of the proper functioning of these Boards that the consumers in Southern Canada take for granted the fact that they are provided with good services by owners of public utilities.

In the light of experiences of these Boards in Canadian provinces, the following questions are posed:

(1) Is there a need for a Public Utilities Act, and, therefore, a Public Utilities Board in the Yukon and the Northwest Territories?

(2) If there is a need for a Public Utilities Act in the Yukon and the Northwest Territories, then what duties and functions of the constituted Board should be prescribed by the Act?

(3) If there is no immediate need for a Public Utilities Act in the Yukon and the Northwest Territories, then what action can now be

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[1] See for example:
(a) Statutes of Alberta, 1960, Chapter 85
(b) Statutes of British Columbia, 1938, Chapter 47
(c) Statutes of Newfoundland, 1964, Act No. 39
(d) Revised Statutes of Quebec, 1964, Chapter 235.

taken by the present owners of the public utilities in the territories to improve upon the services that are provided to consumers?

An examination of the setting in which Public Utilities Boards operate in the Canadian provinces shows, inter alia:

(a) That there are several owners of public utilities catering to thousands and sometimes millions of consumers, all capable of paying for the services rendered to them; and

(b) that there is "standardization" in the settlement, towns and cities of these provinces, in the sense that the following features exist: reservoirs, underground water conduits; water towers, electrical plants and accessories, telephone lines, roads streets, houses equipped to accommodate public utilities, et cetera. In other words, because all these features exist, it is possible to set one definite standard with regard to each public utility and by which Public Utilities Boards can operate.

No such definite standards can be set in the Yukon and the Northwest Territories. For example, it is possible to run underground water conduit and sewage lines in Fort Simpson, but it is almost impossible to do likewi in Pangnirtung because of the geological restraints that would be encounte in the latter. This inability to set standards is one reason why it would very difficult for a Public Utilities Board to operate in the Yukon and th Northwest Territories.

However, it is more important to note that a Public Utilities Board i the Yukon and the Northwest Territories would have little or nothing to regulate and enforce at this point in time. True, the settlements lack public utilities and this has served to hinder social development in the territories. But this is not the fault of the owners of the public utilities in the territories. The truth is that the owners of the public utilities are providing services that are reasonably commensurate with the payment they receive. There is nothing that the owners of the public utilities can do if the residences of the local population are not equipped to use electricity or running water. Again, the installation of water mains in a settlement would be useless to the inhabitants if no source of water were available.

There is, therefore, little that a Public Utilities Board could oversee, regulate and enforce in the territories. The problem is not one of an inadequacy in the services provided when viewed in terms of the payment made for them, but that there is an overall lack of public utilities in the territories. It is important for this distinction to be made in appraising the desirability for a Public Utilities Act in the Yukon and the Northwest Territories.

Another important point which should be observed in appraising the desirability for a Public Utilities Board in the Yukon and the Northwest Territories is that most of the services are largely provided by Government (in some instances by persons under contract to the Government) or by a company (for example, like the United Keno Hill Mines) which is responsible for a community. Historically, public utilities ordinances have only been necessary where utilities are, in the main, provided by private companies.

The answer to the first two questions is, therefore, that there is little need for a Public Utilities Board, because it would have few functions

What action, then, can be taken by the owners of the public utilities in the territories to improve the services provided to consumers? On the surface, there appears to be little that the owners of the public utilities can do in view of the fact that the efficiency with which they provide their services is so directly dependent upon existing facilities in native residences and the infrastructure in the settlements.

However, two suggestions have been made and are noted below:

(a) The agencies which distribute water from trucks could ensure that the vehicles are serviceable at all times, and perhaps add more vehicles to their existing fleet so as to minimize breakdown of service.

(b) The price of heating oil could be investigated. In view of the high cost of heating houses in Arctic regions, any reduction would be of immediate benefit.

It should be noted that the Department of Indian Affairs and Northern Development is currently working on improving and/or developing better water supplies through pipe, truck, utilidor and water point systems.

The disposal of garbage does present a problem in the territories. It is reported that some of the agencies who undertake the task aggravate the problem through haphazard methods of garbage disposal. The Department of Indian Affairs and Northern Development allocates contracts for the collection and disposal of garbage. The Department can take measures to ensure that the contractors are performing as efficiently as is possible. In other cases, the Department could solicit the cooperation of any agency that might be performing inefficiently.

A word should be said about the high price of oil in the Yukon. There appears to be little that the Federal or Territorial Government could do in this regard, without the assistance of the United States Government, since part of the products pipe line is placed in Alaska and is owned by a U.S. Subsidiary.

In summation, it can reasonably be said that no significant improvement of public utilities can be made in the Yukon and the Northwest Territories unless and until:

(a) The indigenous population is capable of paying for better services;

(b) The native residences are improved and equipped for essential services;

(c) The territories obtain a more sophisticated infrastructure; and,

(d) Ways of "getting around" the existing physical restraints are discovered.

Only when these conditions are fulfilled will there be a need for a Public Utilities Act in the Yukon and the Northwest Territories.

APPENDIX F

NORTHERN
CANADA
POWER
COMMISSION

Head Office 251 Bank Street, Ottawa 4, Ontario Canada

NPC 3

February 2, 1968.

Mr. G.H. Caldwell,
Chief, Resource Management Division,
Department of Indian Affairs and
Northern Development,
Centennial Tower,
400 Laurier Avenue West,
OTTAWA.

Dear Sir:

Re: Expanded Function

In the event of takeover of privately-owned generation and distribution systems in the Yukon and Northwest Territories, the operations and hence annual budget of the Power Commission would be increased considerably.

The expansion of function would be mainly in the Yukon, where a regional manager for the whole of the Yukon Territory would be required. This manager, supported by a staff of engineering and technical supervisors (generation, transmission, distribution) would be resident in Whitehorse, and would be responsible for the complete day-to-day operation of the Yukon system.

In the Northwest Territories, the acquisition of the existing private distribution and generation systems would have a lesser impact on our present facilities than the Yukon situation. Appointment of a regional manager (to be based at Yellowknife) has been entertained as being advisable in the not too distant future with the currently increasing activities in the Northwest Territories; the expanded function could conceivably accelerate this appointment, but would not of itself create the need.

The Commission could undertake the expanded operations within the present framework of the Act. Although some revision of the Act would be desirable in the interests of flexibility and efficiency, the Act in its present form would not jeopardize the function required for the broader base of operations. This is because the expansion would be merely what it implies, i.e., an extension of existing services and facilities, utilizing, for the most part, the former owners' plant and employees.

Revision of the Act, at this time, would therefore likely be unnecessary and premature.

With regard to future revision of the Act, the more significant points can be briefly summarized as follows:

a) An extended Board, to include local representation from each Territory, also outside (i.e. non-government) membership to broaden the spectrum of representation.

b) More autonomy to increase efficiency of operation. This is especially important in the field of wage scales where more flexibility would be advantageous and could be attuned to various locations and situations.

c) More flexibility in rate schedules would also be desirable. At the present time, changes in this field require Governor General in Council approval, which is thought to be somewhat pointless because of this body's unfamiliarity with rate structures and reason for change; furthermore if the Commission's operations are conducted on a commercial basis rate schedules must provide adequate income to cover its expenses and committments.

Yours truly,

(sgd. J.M. Lowe)

(for) E.W. Humphrys,
General Manager.

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